

Notice of Allowability

Application No.

09/903,208

Examiner

Aimee J. Li

Applicant(s)

TOPHAM, NIGEL PETER

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 02 May 2006.
2. ☒ The allowed claim(s) is/are 1, 3, 5-13, 14, 15, 31, and 32 renumbered as 1, 2, 3-11, 13, 14, 12, and 15 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Patrick G. Burns (Reg. No. 29,367) on 20 July 2006. The application has been amended as follows:

- a. Claim 14: A machine-readable storage medium storing instructions to be executed by a processor, each said instruction being represented in one of first and second external instruction formats, F1 and F2, of the processor, and each instruction specifying one operation of a set of operations made up of all the operations executable by the processor and causing the processor to execute the operation specified by the instruction, and each of said external formats, F1 and F2, having one or more opcode bits in which an opcode, specifying the operation to be executed, appears, and each of said opcode bits in one of said external formats, F1 and F2, that has an individually corresponding opcode bit in the other one of said external formats, F1 and F2, being a common F1-F2 opcode bit in the format concerned so that each of said external formats, F1 and F2, has, among its said one or more opcode bits, the same number C of common F1-F2 opcode bits in total, where $C \geq 1$, wherein:

- i. All of the operations of said set of operations that are specifiable in said second external format 172 have distinct opcodes in said second external format F2; and
 - ii. For every one of the operations of said set of operations that is specifiable both in said first and second external formats, all the mutually-corresponding common F1-F2 opcode bits in the two external formats F1 and F2 are purposefully identical to one another,
 - iii. Whereby a translation process that is performed by the processor in operation thereof, and that employs one or more encoded opcode bits to translate the external-format instructions into corresponding instructions in an internal format used by an execution unit within the processor can be independent of the opcodes.
- b. Claim 15: A method of encoding instructions for a processor in at least first and second external instruction formats, F1 and F2, of the processor, each said instruction in one of said external formats specifying one operation of a set of operations made up of all the operations executable by the processor and causing the processor to execute the specified operation, and each of said external formats, F1 and F2, having one or more opcode bits in which an opcode, specifying the operation to be executed, appears, and each of said opcode bits in one of external formats, F1 and F2, that has an individually corresponding opcode bit in the other one of said external formats, F1 and F2, being a common F1-F2 opcode bit in the format concerned so that each of said external formats, F1 and F2, has, among its

said one or more opcode bits, the same number C of common F1-F2 opcode bits in total, where $C \geq 1$, said method comprising:

- i. Encoding all of the operations of said set of operations that are specifiable in said second external format F2 with distinct opcodes in said second external format F2;
- ii. For every one of the operations of said set of operations that is specifiable both in said first and second external formats, F1 and F2, encoding the respective opcodes of the operations in said first and second external formats so that all the mutually-corresponding common F1-F2 opcode bits in the two external formats F1 and F2 are purposefully identical to one another,
- iii. Whereby a translation process that is performed by the processor in operation thereof, and that employs one or more encoded opcode bits to translate the external-format instructions into corresponding instructions in an internal format used by an execution unit within the processor can be independent of the opcodes.

c. Claim 30: **Cancelled**

3. The following is an examiner's statement of reasons for allowance: The independent claims contain limitations reciting that two different instructions sets contain purposefully common opcode bits and these opcode bits are necessary, along with other opcode bits, to translate one instruction set to another instruction set without having to rely upon decoding the opcode. Claims 14 and 15 contain whereby clauses reflecting this as well, since the final step

Art Unit: 2183

and reason for the invention is to translate from one instruction set to another without having the rely upon the entire opcodes but portions of the opcode which include the common opcodes.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:00am-4:30pm.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


AJL
Aimee J. Li

Application/Control Number: 09/903,208

Page 6

Art Unit: 2183

21 July 2006


EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100